CASS COUNTY GOVERNMENT

Data Storage Project

Request for Proposal

Contents

I. PROJECT OVERVIEW

REQUESTING COMPANY INFORMATION

Cass County is located on the eastern border of North Dakota in the Red River Valley of the North. The county is home to approximately 144,000 people. The majority of this population is concentrated in the greater Fargo Metropolitan area along the Red River.

Cass County employees a diverse user base including Accountants, District Attorneys, Sheriff's deputies, Engineers, and Social Workers. To accommodate the roughly 450 users Cass County Information Technology Department supports approximately 75 Windows 2003/2008 servers 50 of which are virtual servers running on Microsoft Hyper-V, 3 Microsoft SQL database servers, and 300 Windows XP/7 desktops and Laptops.

CURRENT DATA STORAGE ENVIRONMENT

Cass County's data storage environment consists of a primary data center with approximately 17 physical windows servers and 35 virtual servers running on Microsoft Hyper-V virtualization. The data infrastructure consists of (1) HP MSA1500 with 8 TB of raw storage and 1 TB of direct attached storage.

A secondary data center consists of 4 physical windows servers and 15 virtual servers running on Microsoft Windows Hyper-V virtualization. Data infrastructure consists of (1) HP MSA1500 with 4 TB of raw storage. The two sites are connected by single mode fiber.

Backup infrastructure includes Microsoft Data Protection Manager (DPM) with approximately 12 TB of raw storage dedicated to snapshot backups. The county desires to continue to use DPM as its primary method of data backup and recovery.

Microsoft Perfmon stats for current disk usage are available in a CSV format at the following website http://www.casscountynd.gov/county/depts/itd/documents/perfmon.zip

Application	Current	Future
Exchange	100 GB	500 GB
SQL	125 GB	200 GB
File Shares	460 GB	700 GB
Hyper-V	3000 GB	4000 GB
Static Images	1200 GB	2000 GB
Applications	600 GB	600 GB
SharePoint	50 GB	100 GB

PROJECT OBJECTIVES

The primary objective of this project is to replace the current data infrastructure in the primary data center with the majority of our applications hosted in virtual environments. The secondary objective is to replace the data infrastructure at our secondary data center to facilitate data replications and hot/cold failover server applications.

DESIRED DATA STORAGE ENVIRONMENT

The desired storage environment shall include a tiered storage environment with 10 TB of usable space utilizing 1GB iSCSI (with upgrade path to 10GB iSCSI within 1 year) as its primary communication protocol with active directory integrated NFS file shares to replace legacy Windows file sharing at the primary site. The desired environment at the secondary site would 5 TB usable space replicating data from the primary site. Upon project completion, it is desired to be between 50%-60% utilization. The following features should be included in the base product or added to the proposal as an option if required to purchase separately:

- Data de-duplication
- Thin Provisioning
- Automatic data tiering based on file usage
- Cloning
- Snapshots
- Synchronous Replication

II. INSTRUCTIONS FOR RFP RESPONSES

EVALUATION SCHEDULE

Milestone	Date
RFP distributed to vendors	2/2/2011
Bidders' questions due from respondents	2/11/2011
Response to bidders' questions	2/15/2011
RFP responses due from respondents	2/18/2011
Clarification questions on vendor responses	2/22/2011
Vendor Demonstrations/Presentations	2/22/2011- 2/25/2011
Selection of vendor/contract negotiation	3/4/2011

PROPOSAL FORMAT

Page: Single side, 8.5 x 11 with 1-inch margins

Font: Arial (no smaller than 11 pt.)

QUESTIONS

Please email all questions to RFP-ITD-2011-2@casscounytnd.gov. We will respond to all questions via email.

SUBMITTING RESPONSES

RFP responses, including all supporting documentation, are due no later than *[5:00PM CST on 2/18/2011]*.

Responses must include

- 2 Hard copies

Submit responses to:

ATTN: Josh Diemert

Cass County Government ITD

211 9th ST S

Fargo, ND 58103

BASIS OF AWARD

- Technical capability
- Software capability
- Functionality
- Vendor support, responsiveness, and follow-up
- Ease of use
- Flexibility and ease of product implementation
- Implementation plan and support
- Pricing
- Timely and complete response to RFP
- Vendor client references
- Results of requested demonstrations and presentations

NOTIFICATIONS

Three vendors will be selected after RFP responses are submitted to give a demonstration of their proposed solution to the Cass County Information Technology Department.

The vendor determined by Cass County Government to possess the capacity to compete for this contract will be selected to move into the negotiation phase of this process. Written notification will be sent to this vendor via email. Those vendors not selected for the negotiation phase will be notified by email.

1 VENDOR RESPONSE

1.1 VENDOR CONTACT INFORMATION

Provide contact information for the principal individual(s) to be contacted regarding the information in this RFP.

RESPONSE

Name:

Title:

E-mail:

Phone:

1.2 VENDOR OVERVIEW

Provide a brief history of your company. Include how long the company has been in business, how many customers you currently have, the location of corporate headquarters, and geographic locations where your company operates (locations of field sales offices, manufacturing locations, design centers, and support centers).

RESPONSE

Enter your response here.

1.3 FINANCIAL BACKGROUND

Are you a private or publicly traded company? If public, provide your ticker symbol and a copy of your company's latest annual report. If private, describe how the business started and who funded the startup. Provide evidence of your company's financial stability and projected longevity.

RESPONSE

Enter your response here.

1.4 PRODUCTS AND SERVICES

Describe your company's core product and service lines. Is data storage you primary product(s), if not what percentage of overall sales of data storage within in the company?

RESPONSE

Enter your response here.

1.5 PRODUCT WARRANTIES

What is the standard product warranty offered by your company? Does your company provide extended warranty after the initial warranty period expires?

RESPONSE

Enter your response here.

1.6 DIFFERENTIATORS

What differentiates your company's products and services from those of your competitors?

RESPONSE

Enter your response here.

1.7 INDUSTRY AWARDS AND RECOGNITION

List any awards or industry recognition your company has received. Of particular note are awards for environmental awareness and IT efficiency.

RESPONSE

Enter your response here.

2 PROPOSED SOLUTION ARCHITECTURE

2.1 PROPOSED SOLUTION SUMMARY

Provide a brief summary of your proposed solution, including model numbers, configuration, and proposed software options.

RESPONSE

Enter your response here.

2.2 ARCHITECTURAL OVERVIEW

Provide an overview of your storage architecture.

RESPONSE

Enter your response here.

2.3 VIRTUAL INFRASTRUCTURE

Describe your company's relationship with [Microsoft], including joint development efforts and joint support agreements. What level of integration exists between your products/solution and [Microsoft] products and solutions? Be specific.

RESPONSE

Enter your response here.

2.4 OPERATING SYSTEM AND COMMAND SETS

Describe the operating system or command set used in the proposed solution. If multiple operating systems or command sets are proposed, describe each separately.

RESPONSE

Enter your response here.

2.5 COMMUNICATION PROTOCOLS

State the communication protocols supported by the proposed solution (CIFS, NFS, iSCSI, FC, FCoE). What physical connectors are used for each supported protocol (SFP, SFP+, XFP, etc.)? Does the proposed solution support multiple concurrent protocols on a single storage system? What protocols are included in the purchase? How are other protocols added to the system?

RESPONSE

Enter your response here.

2.6 DISK TECHNOLOGIES

State the disk technologies supported by the proposed solution (SSD, FC, SAS, SATA). Does the proposed solution support multiple concurrent drive types on a single storage system? Please include the Mean Time between Failure information for each drive type that your system supports.

RESPONSE

Enter your response here.

2.7 SCALABILITY

What is the maximum capacity (in terabytes) of the proposed solution without requiring data migration or a change of operating system?

RESPONSE

Enter your response here.

2.8 DYNAMIC EXPANSION

Describe the functionality for dynamic, nondisruptive expansion of any logical volume or LUN within the system from the common storage repository.

RESPONSE

Enter your response here.

2.9 IMPROVING PERFORMANCE

Describe any functionality for accelerating performance in large application environments.

RESPONSE

Enter your response here.

3 DATA PROTECTION

3.1 OVERALL APPROACH

Describe your overall approach to data protection. What level of integration does your data protection solution offer?

RESPONSE

Enter your response here.

3.2 SNAPSHOT CREATION CAPABILITY

Describe the snapshot creation process. Specifically, is the creation of snapshots "instant"? Is manual creation of snapshots permitted? Is the automatic creation of snapshots on a user-defined schedule permitted?

RESPONSE

Enter your response here.

3.3 MAXIMUM SNAPSHOTS PER VOLUME OR LUN

What is the maximum number of snapshots allowed per volume or LUN? If snapshots are permitted at other than at the volume or LUN level, please describe.

RESPONSE

Enter your response here.

3.4 SNAPSHOT PERFORMANCE

Is snapshot creation nondisruptive to production operation? Describe any performance degradation that will occur as a result of snapshots.

RESPONSE

Enter your response here.

3.5 SNAPSHOT CAPACITY OVERHEAD

Describe any capacity overhead required for snapshots.

RESPONSE

Enter your response here.

3.6 SNAPSHOT RESTORE CAPABILITY

Describe the snapshot restore process. Specifically, are restores of individual files from a snapshot supported? Is it possible to restore transactional data (SQL, Exchange, etc.) from a snapshot?

RESPONSE

Enter your response here.

3.7 DISK-TO-DISK BACKUP AUTOMATION

Describe any tools or products you offer to automate the disk-to-disk (D2D) backup process.

RESPONSE

Enter your response here.

3.8 ARCHIVE AND COMPLIANCE

Explain how your solution addresses secure, long-term data archiving and compliance requirements.

RESPONSE

Enter your response here.

3.9 THIRD PARTY BACKUP UTILITIES

Does your solution support the use of third party backup tools to back up and restore NFS file shares?

RESPONSE

Enter your response here.

3.10 CONTINUOUS AVAILABILITY

Describe any products or tools you offer to provide continuous availability in the event of a system or site failure. What is the typical data loss associated with your product or tool?

RESPONSE

Enter your response here.

4 DATA RELIABILITY

4.1 SYSTEM HEALTH REPORTING

Does the proposed solution support automatic notification of system health? If so, describe the system health information provided to users.

RESPONSE

Enter your response here.

4.2 REBOOT PROCESS

Describe the reboot process in the event of a power failure. Specifically, state the average reboot time and the consistency checks that occur during reboot.

RESPONSE

Enter your response here.

4.3 FAILOVER

Does the proposed storage system support active-active controller configuration with cache-synchronized automated failover?

RESPONSE

Enter your response here.

4.4 DATA MOBILITY

Describe any features in the proposed solution that provide nondisruptive data migration to relocate data for optimization.

RESPONSE

Enter your response here.

4.5 REDUNDANT POWER SUPPLIES

Describe the use of redundant power supplies. Specifically address the ability to support two physically diverse power grids that can power the entire solution from either of the power sources 100% of the time.

RESPONSE

Enter your response here.

4.6 NONDISRUPTIVE FUNCTIONALITY

Describe the nondisruptive functionality of the proposed solution. Which components require no downtime to replace, and which components require an outage to replace? In addition, describe any disruption required to upgrade array microcode during periodic refreshes.

RESPONSE

Enter your response here.

4.7 SOFTWARE AND HARDWARE UPGRADES

Is system software and hardware upgradable without system downtime?

RESPONSE

Enter your response here.

4.8 RAID PROTECTION

List all RAID levels supported. Does your technology have the ability to change RAID levels non-disruptively? Does your technology have the ability to resize RAID pools non-disruptively?

RESPONSE

Enter your response here.

4.9 RAID REBUILDING PROCESS

Describe the process of RAID rebuilding. Specifically, how is the spare drive identified, and how is the user notified? Also, describe any capability to throttle the rebuilding process.

RESPONSE

Enter your response here.

4.10 DIAGNOSING AND REPAIRING DEFECTIVE DRIVES

Describe any capability to automatically diagnose or repair defective drives.

RESPONSE

Enter your response here.

4.11 DETECTING AND RECOVERING LOST AND MISPLACED WRITES

Describe the ability to detect and recover from lost writes and misplaced writes.

RESPONSE

Enter your response here.

5 STORAGE EFFICIENCY

5.1 DATA DE-DUPLICATION

Describe the general process used to perform de-duplication. What is the performance impact of the de-duplication feature? Are there any restrictions in the de-duplication design? Specifically, describe storage tiers and third-party applications that should or should not incorporate de-duplication. Is it possible with your solution to dedupe within a virtual hard disk?

RESPONSE

Enter your response here.

5.2 DISK-BASED DATA COMPRESSION

If the proposed solution includes disk-based data compression, describe the general process used to perform compression. Describe the performance impact of the compression feature and any restrictions in the disk-based compression design. Specifically, describe storage tiers and third-party applications that should or should not incorporate compression.

RESPONSE

Enter your response here.

5.3 THIN PROVISIONING

If the proposed solution includes thin provisioning, describe the general process used to perform thin provisioning. Describe the performance impact of the thin-provisioning feature and any restrictions in the thin-provisioning design. Specifically, describe storage tiers and third-party applications that should or should not incorporate thin provisioning.

RESPONSE

Enter your response here.

5.4 CLONING

If the proposed solution includes file/LUN/volume cloning, describe the general process used to perform file/LUN/volume cloning. Describe the performance impact of file/LUN/volume cloning and any restrictions in the file/LUN/volume cloning design. Specifically, describe storage tiers and third-party applications that should or should not incorporate file/LUN/volume cloning.

RESPONSE

Enter your response here.

5.5 SATA PERFORMANCE

If the proposed solution supports SATA disk drives, describe any technologies you offer to improve the performance of SATA drives, such as prefetching or caching.

RESPONSE

Enter your response here.

5.6 GREEN OFFERINGS

How does your organization focus on providing “green” offerings for customers who want to take advantage of energy-efficient configurations?

RESPONSE

Enter your response here.

5.7 LOAD CHARACTERISTICS

Describe the load characteristics of the proposed solution, in both the active mode and idle mode.

RESPONSE

Enter your response here.

5.8 ENERGY-EFFICIENT CERTIFICATIONS

Describe any energy-efficient certifications of the proposed solution.

RESPONSE

Enter your response here.

5.9 ESTIMATED STORAGE SAVINGS

Describe any tools you provide that estimate savings from the proposed solution using storage efficiency and green technologies. Do you offer any written guarantee of projected savings?

RESPONSE

Enter your response here.

6 STORAGE MANAGEMENT

6.1 MANAGEMENT INTERFACE

Describe the management interface required to install and operate the proposed solution. Does the proposed solution support a command-line interface to the operating system accessible using telnet, SSH, or direct-connect console? Does the proposed solution support a Web-enabled management interface? If multiple management interfaces are required, describe each separately.

RESPONSE

Enter your response here.

6.2 AUTOMATING THE IMPLEMENTATION/OPERATION PROCESS

Describe any tools you offer to automate the implementation process. Describe any tools that automate operation tasks (Snapshot creation, disk cloning, and replication).

RESPONSE

Enter your response here.

6.3 DISCOVERY AND AUTOCONFIGURATION TOOLS

Describe any tools you offer to discover and auto configure any portion of the proposed solution.

RESPONSE

Enter your response here.

6.4 QUALITY OF SERVICE

Describe any features in the proposed solution that automatically adjust quality of service (QoS) levels.

RESPONSE

Enter your response here.

6.5 RESOURCE POOLS

Describe any capability to automatically create and manage virtual storage resource pools.

RESPONSE

Enter your response here.

6.6 ANALYSIS TOOLS AND REPORTS

Describe any analysis tools that provide capacity optimization reports on the proposed solution. Describe any analysis tools that support historical growth at the LUN, volume, and overall historical usage statistics.

RESPONSE

Enter your response here.

6.7 STORAGE RESOURCE MANAGEMENT (SRM)

If the proposed solution includes SRM, describe your SRM strategy and explain how your tools integrate to provide a single pane of glass for reporting and management. Does your SRM system proactively report and provide guidance for resolution of incidents whether they are performance or availability related? Does your SRM tool provide the ability to manage hosts, switches, NAS appliances, and SAN storage arrays? Architectural information is encouraged.

RESPONSE

Enter your response here.

6.8 SRM SCALABILITY

Are there known bounds or limits on SRM scalability with respect to discovering and reporting on infrastructure resources?

RESPONSE

Enter your response here.

7 CUSTOMER SERVICE AND TECHNICAL SUPPORT

7.1 APPLICATION SUPPORT

Describe any custom integration or technical affiliation with the following applications: Microsoft Hyper-V, Microsoft SQL Server, and Microsoft Exchange Server

RESPONSE

Enter your response here.

7.2 TECHNICAL AND CUSTOMER SUPPORT SERVICES

Describe your technical and customer support services. How do you track technical support requests, problems, fixes, and so on? How do you facilitate communication and feedback from users? Describe the level of technical support offered during the installation of the system.

RESPONSE

Enter your response here.

7.3 ESCALATION PROCESS

Describe in detail your field problem escalation process. Provide a flow chart if available. At a minimum, explain the number of severity levels, the criteria used to define problem severity at each level, who is notified at each level, and the time period between each severity level.

RESPONSE

Enter your response here.

7.4 PROACTIVE SERVICE FEATURES

Does the proposed solution have any proactive service features? In particular, describe any “phone home” capability and any ability to self-diagnose errors and perform automated corrective action.

RESPONSE

Enter your response here.

7.5 PROFESSIONAL SERVICES

Describe your Professional Services capability as it pertains to this project. Include services offered, locations provided, and whether in-sourced or outsourced personnel are used.

RESPONSE

Enter your response here.

7.6 TRAINING

Describe the system training available upon project launch. Describe any self-help training resources available.

RESPONSE

Enter your response here.

8 CUSTOMER REFERENCES

Provide a minimum of three customer references, preferably in a similar industry and using a similar proposed solution.

RESPONSE

Enter your response here.

9 PROPOSED SOLUTION PRICING

9.1 DETAILED PRICING

Provide detailed pricing for the proposed solution; include separate costs for hardware components, software components, support costs (including spare parts), and professional services.

RESPONSE

Enter your response here.

9.2 TCO AND ROI TOOLS

Describe any tools you offer to help quantify the TCO and/or ROI of the proposed solution.

RESPONSE

Enter your response here.

9.3 SOFTWARE LICENSING

Describe the pricing structure of any software licenses in the proposed solution. In particular, describe any licenses that are priced based on utilization, throughput, or any similar variable.

RESPONSE

Enter your response here.

9.4 PROCUREMENT SOURCES

Does your company offer direct to Manufacturer purchasing, or is a third party reseller required? If a third party reseller is required which third party sellers do you work with for the North Dakota area? Does your company offer purchasing through GSA or WSCA contracts for State and Local Government?